

Appl. No. : 10/807,643
Filed : March 23, 2004

AMENDMENTS TO THE CLAIMS

1. (Original) A prosthesis for placement at an os opening from a main body lumen to a branch body lumen; said prosthesis comprising: a radially expansible scaffold; and at least two circumferential anchors extending axially from an end of the scaffold, said anchors adapted to extend axially into and expandably circumscribe at least one-half of the main vessel wall when the scaffold is implanted in the branch lumen with said one end adjacent the os.

2. (Original) A prosthesis as in Claim 1, comprising at least three circumferential anchors extending axially from the end of the scaffold.

3. (Original) A prosthesis as in Claim 1, wherein the anchors have an axial length which is at least 1.5 times the width of the scaffold prior to radial expansion.

4. (Original) A prosthesis as in Claim 1, wherein the anchors have an axial length of at least 2 mm.

5. (Original) A prosthesis as in Claim 1, wherein the scaffold comprises a plurality of axially adjacent cells.

6. (Original) A prosthesis as in Claim 1, wherein the circumferential anchors are all congruent.

7. (Original) A prosthesis as in Claim 1, wherein the circumferential anchors will radially expand when the scaffold is radially expanded.

8. (Original) A prosthesis as in Claim 1, wherein the circumferential anchors are adapted to both bend and rotate relative to a control axis of the prosthesis.

9. (Original) A prosthesis as in Claim 1, further comprising a radiopaque marker at or near a transition location between the scaffold and the circumferential anchors.

10. (Original) A prosthesis as in Claim 1, mounted on a balloon wherein the balloon has a radiopaque marker aligned with a transition location between the scaffold and the circumferential anchors.

11. (Original) A method for deploying a prosthesis across an os opening from a main body lumen to a branch body lumen, said method comprising: positioning the prosthesis so that a scaffold lies within the branch body and at least two circumferential anchors extend into the main body lumen; radially expanding the scaffold to implant said scaffold in the branch body lumen; and circumferentially deforming the anchors to circumscribe at least a portion of the main vessel wall and open a passage through the anchors.

Appl. No. : 10/807,643
Filed : March 23, 2004

12. (Original) A method as in Claim 11, wherein at least three circumferential anchors extend into the main body lumen.

13. (Original) A method as in Claim 11, wherein positioning the prosthesis comprises aligning a visible marker on at least one of the prosthesis and a delivery balloon with the os.

14. (Original) A method as in Claim 11, wherein the lumens are blood vessels.

15. (Original) A method as in Claim 11, wherein the scaffold is expanded with a balloon expanded within the scaffold.

16. (Original) A method as in Claim 15, wherein the anchors are deformed by expanding a balloon positioned transversely through the anchors.

17. (Original) A method as in Claim 16, wherein the scaffold and anchors are expanded and deformed by the same balloon.

18. (Original) A method as in Claim 16, wherein the scaffold and anchors are expanded and deformed by different balloons.

19. (Cancelled)

20. (Currently Amended) A method as in Claim 11-19, further comprising the step of deploying a second prosthesis within the passage through the anchors, wherein the second prosthesis is deployed by a balloon catheter exchanged over a guidewire pre-positioned for deformation of the anchors.

21. (Currently Amended) A method as in Claim 11-19, further comprising the step of deploying a second prosthesis within the passage through the anchors, wherein the anchors are deformed by deployment of the second prosthesis.

22. (Currently Amended) A method as in Claim 11-19, further comprising the step of deploying a second prosthesis within the passage through the anchors, wherein the deployed second stent supports the anchors over their lengths from the os over the main body lumen wall.

23. (New) A prosthesis for placement at an os opening from a main body lumen to a branch body lumen; said prosthesis comprising: a radially expansible scaffold; and at least two circumferential anchors extending axially from an end of the scaffold, said anchors adapted to extend axially into and expandably circumscribe at least one-half of the main vessel wall when the scaffold is implanted in the branch lumen with said one end adjacent the os, and wherein said anchors are adapted to both bend and rotate relative to a control axis of the prosthesis.

Appl. No. : 10/807,643
Filed : March 23, 2004

24. (New) A prosthesis as in Claim 23, comprising at least three circumferential anchors extending axially from the end of the scaffold.

25. (New) A prosthesis as in Claim 23, wherein the anchors have an axial length which is at least 1.5 times the width of the scaffold prior to radial expansion.

26. (New) A prosthesis as in Claim 23, wherein the anchors have an axial length of at least 2 mm.

27. (New) A prosthesis as in Claim 23, wherein the scaffold comprises a plurality of axially adjacent cells.

28. (New) A prosthesis as in Claim 23, wherein the circumferential anchors are all congruent.

29. (New) A prosthesis as in Claim 23, wherein the circumferential anchors will radially expand when the scaffold is radially expanded.

30. (New) A prosthesis as in Claim 23, further comprising a radiopaque marker at or near a transition location between the scaffold and the circumferential anchors.

31. (New) A prosthesis as in Claim 23, mounted on a balloon wherein the balloon has a radiopaque marker aligned with a transition location between the scaffold and the circumferential anchors.

32. (New) A method for deploying a prosthesis across an Os opening from a main lumen to a branch lumen, said method comprising: positioning a first prosthesis so that a scaffold lies within the branch lumen and at least two circumferential anchors extend into the main lumen; radially expanding the scaffold to implant said scaffold in the branch lumen; circumferentially deforming the anchors to circumscribe at least a portion of the main lumen wall and open a passage through the anchors; and deploying a second prosthesis within the passage through the anchors.

33. (New) A method as in Claim 32, wherein at least three circumferential anchors extend into the main lumen.

34. (New) A method as in Claim 32, wherein positioning the first prosthesis comprises aligning a visible marker on at least one of the prosthesis and a delivery balloon with the Os.

35. (New) A method as in Claim 32, wherein the lumens are blood vessels.

Appl. No. : 10/807,643
Filed : March 23, 2004

36. (New) A method as in Claim 32, wherein the scaffold is expanded with a balloon expanded within the scaffold.

37. (New) A method as in Claim 36, wherein the anchors are deformed by expanding a balloon positioned transversely through the anchors.

38. (New) A method as in Claim 37, wherein the scaffold and anchors are expanded and deformed by the same balloon.

39. (New) A method as in Claim 37, wherein the scaffold and anchors are expanded and deformed by different balloons.

40. (New) A method as in Claim 32, wherein the second prosthesis is deployed by a balloon catheter exchanged over a guidewire pre-positioned for deformation of the anchors.

41. (New) A method as in Claim 32, wherein the anchors are deformed by deployment of the second prosthesis.

42. (New) A method as in Claim 32, wherein the deployed second stent supports the anchors over their lengths from the Os over the main lumen wall.